# COLOR
# TELEVISION

**GRUNDIG**

**Xentia 40**
**LXW 102-8625 REF**

**ENGLISH**

• Quick and Easy Installation

• Versatility and Expandability

• That doesn't make you feel fatigue on your Eyes.

• Flat-Panel Digital Display easy on the Eyes.

## Safety Precautions

## User Guidance Information

## Connections

## Basic Use

# CONTENTS

## Power Supply

### Warnings

Do not touch the power plug with wet hands.

• Doing so may result in electric shock.
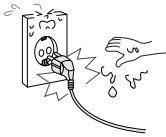
Do not use a damaged power cord or plug or a loose outlet.

• Doing so may result in fire or electric shock.
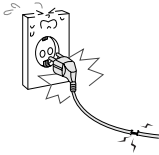
Do not plug several devices into the same outlet.

• Doing so may cause the outlet to overheat and start a fire.
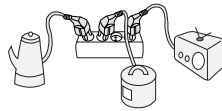
Insert the power plug fully into the outlet.

• A loose or improperly inserted power plug may result in fire.

Do not bend the power cord excessively or place heavy objects on it.

• Doing so may result in fire or electric shock.

Be sure to ground the unit.

• Failing to do so may lead to electric shock when a short circuit or overload occurs. If necessary, install a ground fault circuit breaker. Never ground to a telephone line, lightning rod, or metal gas pipe. (Doing so may result in fire, electric shock, or other hazards.)

### Cautions

When disconnecting the power cord from an AC outlet, always grasp it by the plug.

• Pulling on the cord can damage the internal wire and may result in fire.
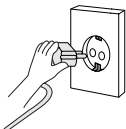
Always unplug the unit before cleaning.

• Not doing so may result in fire or electric shock.

The purpose of these precautions is to ensure user safety and prevent property damage.
Be sure to read and observe all safety precautions.

## Installation

### Warnings

Do not place containers with liquids such as flower vases, soft drink cans, or medicine bottles or small metallic objects on top of the unit.

• If liquid enters the unit or any metal object falls into the unit, it may result in short-circuit, fire, or electric shock.

Do not place the unit where it is exposed to rain, excessive moisture or grease.

• Doing so may result in fire, electric shock, malfunction, or deformation.

Do not use or store flamm able or combustible materials near the unit.

• Doing so may result in fire or explosion.

Do not place the unit on an unstable surface, such as a wobbly stand or sloped table, or on any surface whose area is smaller than the bottom area of the unit.

• If a child climbs on the unit, it could topple and fall onto the child, resulting in serious injury to the child or damage to the unit. Place the unit on a flat stable surface.
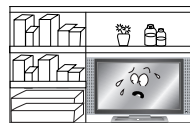
Do not place a burning candle, burning anti-mosquito incense, or lighted cigarette on top of the unit. Do not place the unit near any heat source such as a fireplace or space heater.
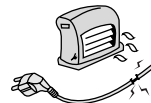
• Doing so poses a serious risk of fire.

Do not place the unit in a poorly ventilated enclosure, such as a cabinet.

• Doing so poses a serious risk of fire.

Do not run power cords near heat-producing appliances such as radiators, stoves, or irons.

• The excessive heat could melt the insulation and expose live wires, resulting in fire or electric shock.

Install the antenna away from high-voltage power lines and communication cables and make sure it is installed securely.
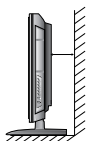
• If the antenna touches a power line, contact with the antenna could result in fire, electric shock, serious injury, or death.
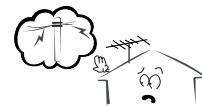
### Cautions

Install the unit at an adeq- uate distance from the wall to ensure sufficient ventilation.

• If the temperature inside the unit rises, it may res- ultin fire.

Do not cover the unit with a tablecloth, curtain, or other material.

• If the temperature inside the unit rises, it may result in fire.

Be sure to place the unit on a level surface.

⚠ Warnings

Form a drip loop where the coaxial antenna cable enters your building to prevent rainwater from traveling along the cable and coming in contact with the antenna input terminal.

• If rainwater finds its way inside the unit, it may result in fire or electric shock.

● The following precautions are divided into "Warnings" and "Cautions".

⚠ Warning : Ignoring this precaution may result in death or serious injury.
⚠ Caution : Ignoring this precaution may result in injury or property damage.

## Use and Maintenance

### Warnings

Disconnect the power cord from the wall outlet during an electrical storm.

• Not doing so may result in fire or electric shock.

Do not insert any metal objects, such as a screwdriver, paper clip, or bent wire into the ventilation openings or A/V terminals.

• Doing so poses a serious risk of fire or electric shock.

Do not allow children to climb or hang on the unit.

• The unit could topple over onto a child and result in serious injury.

Never disassemble or modify the unit in any way. Do not attempt to service the unit yourself.

• Doing so may result in fire or electric shock. If the unit requires repair, contact the service center.

### Cautions

When not using the unit for long periods of time, disconnect the power cord from the wall outlet.

• Dust could accumulate over time on the unit and cause it to generate heat and ignite, or deteriorate insulation, which in turn may result in an electrical fire.

When moving the unit, be sure to turn off the unit and unplug the power cord from the wall outlet.

• Moving the unit with the power cord connected to the outlet may cause damage to the cord, resulting in fire or electric shock.

If you notice any unusual odors or smoke around the unit, immediately disconnect the unit from the outlet and contact the service center.

• Failure to do so may result in fire or electric shock.

#### ⚠ Warnings

When removing the batteries from the remote control, make sure children do not swallow them. Keep the batteries out of the reach of infants and children.

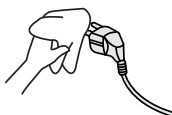• If a child has swallowed a battery, seek medical attention immediately.

Always use two or more people to lift or move the unit.

• If the unit is dropped, it could be damaged or otherwise cause injury.

Wipe off any moisture, dirt, or dust on the power plug pins with a clean dry cloth.

• Failure to do so may result in fire or electric shock.

It is advisable to clean the interior of the unit at least once a year. Contact the store of purchase or service center for information.

• Continuing to use the unit without cleaning off the dust build-up inside it may result in fire or electric shock.
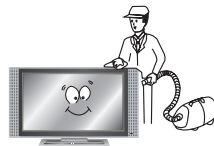
Always turn off the unit and unplug the power cord when cleaning the unit. Use a soft dry cloth to clean the unit.

• Never clean with industrial strength polish, wax, benzene, paint thinner, air freshener, lubricant, detergent, or other such chemicals. Also, do not clean with a damp cloth.

## Important Safety Instructions

● Important safeguards for you and your new product

Always be careful when using your LCD TV. To reduce the risk of fire, electrical shock, and other injuries, keep these safety precautions in mind when installing, using, and maintaining your machine.

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with a dry cloth.

7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use the attachments/accessories specified by the manufacturer.

12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

• Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus

## Important Safety Instructions



---

### CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELE-CTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

---

This symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.

This symbol alerts you that important literature conceming operation and maintenance has been included with this product.

---

**WARNING**

**TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**Caution :**

- These servicing instructions are for use by qualified service personnel only.
 To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# What is LCD TV?

LCD (Liquid Crystal Display) is a next generation flat-panel display module. Liquid crystal material is contained between sheets of glass and electricity causes the liquid crystal material to reflect or block the light emitted from a light source inside the display chassis.

By incorporating this LCD display module, LCD TVs enable you to enjoy outstanding picture quality without the worries of space limitation and harmful radiation you may have experienced with conventional CRT TVs.

## Features

- Picture-in-Picture : Enables you to simultaneously display two different image sources.
- PC Compatible Monitor : Enables you to connect PC (D-Sub) input for displaying high-resolution SXGA (1280x1024, 60Hz) PC images.
- HDTV-Ready Display : Enables you to view high-definition digital pictures using a DVD player or HDTV set-top receiver.
- Various Picture/Sound Controls : Enables you to set the picture and sound settings for a number of different types of programs and viewing and listening conditions.
- Auto Power On/Off Timer : Enables you to set the TV to automatically turn ON or OFF at a preset time.
- ATM : Enables you to set the TV to search for all available standard broadcast and cable TV channels and store them automatically.

# Names of each part

## Front View

❶ Main Power Button
- Please turn off the main power switch, if the LCD TV will
  not be used for a long period of time.

❷ Stand by Button

❸ Source Button
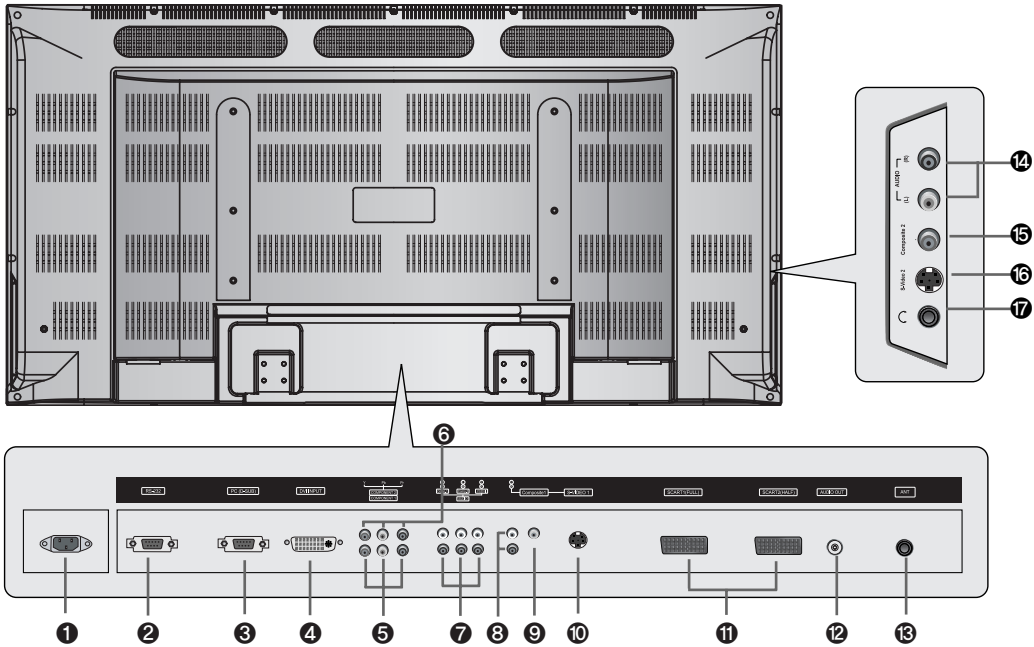- Input Source Select Button

❹ Menu Button
- OSD Menu Display Button

❺ Program/Channel ▼, ▲ Button

❻ Volume ◄, ► Button

## Controls and Functions

### Back View

❶ AC Input
❷ RS-232C Terminal
❸ Analog RGB (D-SUB)
❹ Digital RGB (DVI-D)
❺ Component 1
❻ Component 2
❼ Audio Input (Component 1, 2, PC/ DVI)
❽ Audio Input (Composite 1/ S-Video 1)
❾ Composite 1

❿ S-Video 1
⓫ SCART (Full SCART, Half SCART)
⓬ Audio out
⓭ ANT - Antenna Terrestrial
⓮ Audio Input (Composite 2/ S-Video 2)
⓯ Composite 2
⓰ S-Video 2
⓱ Headphone

## Accessories

● The configuration of the components may look different from the following illustration.

SCART Cable
(Europe+Middle East only)

Power Cord

Audio out Cable

Antenna Cable

Battery 1.5V( AAA × 2)

User's Guide

Remote Control
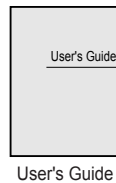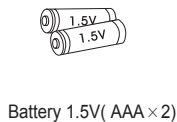
## Mounting on a Wall



▶ Your LCD TV can be mounted on a wall as shown in the figure above.

## Installation Precautions

### Wall Mounting

- Please secure enough space for safe use. (Please refer to A and B.)
- Installation of the LCD TV in an improperly ventilated location can cause a fire or damage to the LCD TV due to increased temperature.
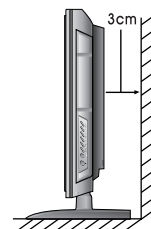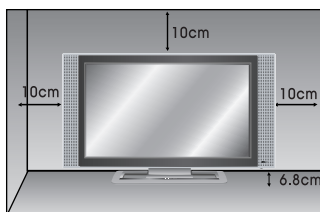
A ⟶
(Mounting on a wall)



10cm
10cm
10cm
10cm
3cm
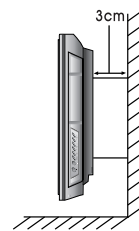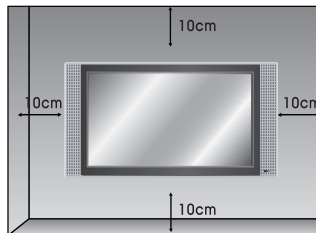
※ Contact your dealer to purchase the "Adjustable-angle wall mount" required for wall-mounted installation.

### Using the Stand

- Do not install on an unstable location with support area smaller than the LCD TV.

B ⟶
(Using the Stand)



10cm
10cm
10cm
6.8cm
3cm

# Installing an Antenna

## For an Apartment or Condo Complex

● Using an Indoor Antenna

Locate a wall jack with an F-connector, and then connect the coaxial antenna cable to the wall jack.

Wall Jack with
F-Connector

Coaxial (Round) Antenna Cable

ANT

Copper
Wire

75 Ω
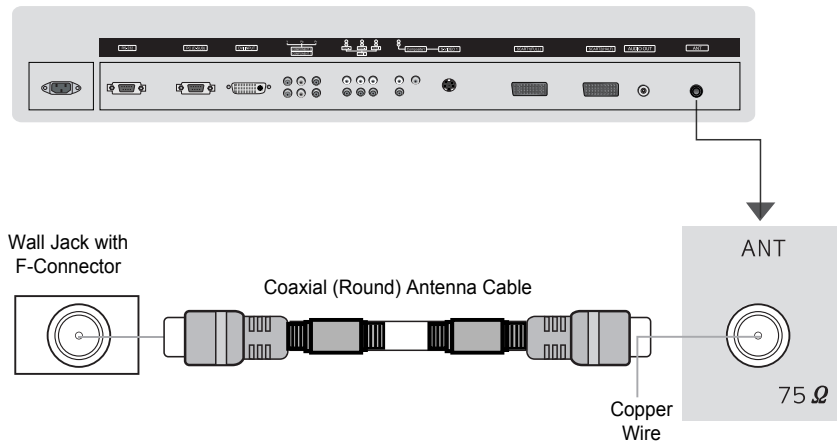
## For a House

● Using an Outdoor Antenna

To install or use an outdoor antenna, if possible, consult a qualified technician for help.

Coaxial (Round) Antenna Cable

ANT

Copper
Wire

75 Ω
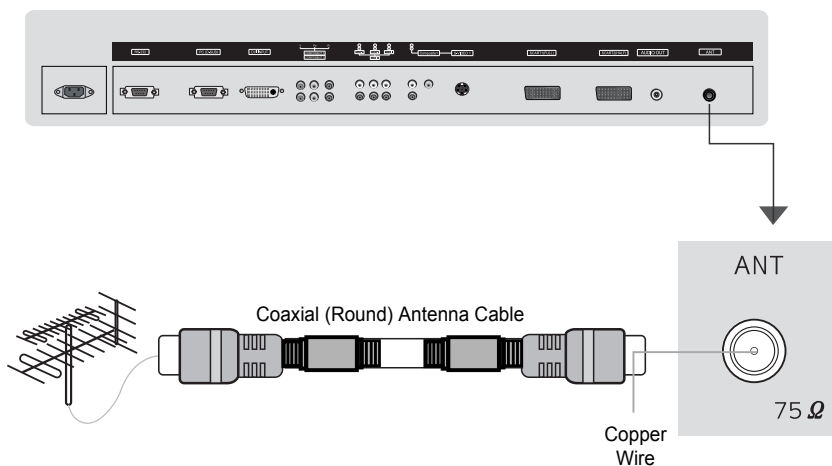
## Remote Controller

● Functions of remote control buttons

The remote control is using Infra-Red (IR). Point it towards the front of the LCD TV. The remote control may not work correctly if it is operated out of range or out of angle.
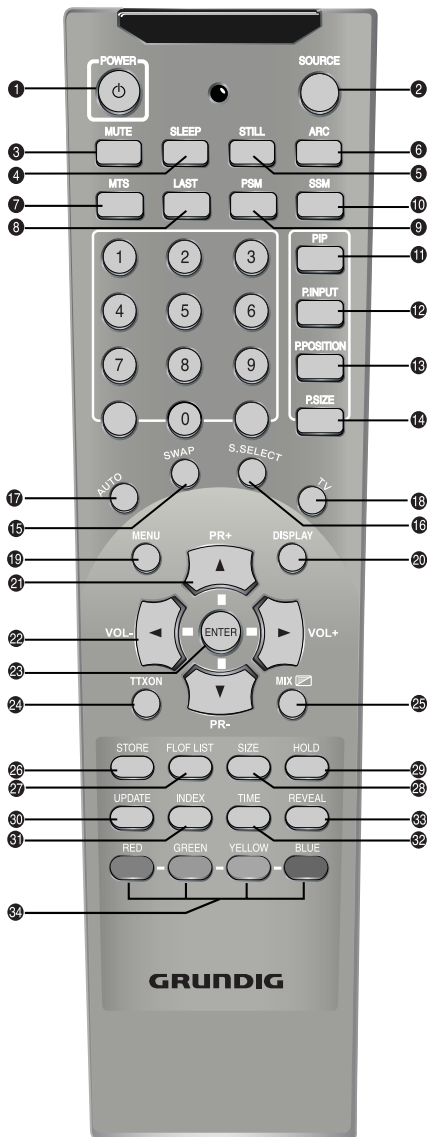
1. POWER : TURNS THE TV ON AND OFF(page.24)
2. SOURCE : USE TO SELECT AN INPUT SOURCE (page.26)
3. MUTE : PRESS TO TEMPORARILY CUT OFF THE SOUND (page.25)
4. SLEEP : PRESS TO SELECT A TIME FOR THE TV TO TURN OFF AUTOMATICALLY (page.44)
5. STILL : PRESS TO STOP THE ACTION DURING A PARTICULAR SCENE (page.38)
6. ARC (Aspect Ratio Control) : PRESS TO CHANGE THE SCREEN SIZE (page.34)
7. MTS (Multi-Television Sound) : PRESS TO SELECT MONO OR STEREO MODE (page.41)
8. LAST : TUNES TO THE PREVIOUS PROGRAM (page.25)
9. PSM : PICTURE STATUS MEMORY KEY (page.29) (CUSTOM, DYNAMIC, STANDARD, MOVIE, MILD)
10. SSM : SOUND STATUS MEMORY KEY (page.30) (CUSTOM, STANDARD, MUSIC, MOVIE, SPEECH)

◈ **PIP CONTROL KEY** (page 39, 40)

11. PIP : PIP ON/OFF
12. P.INPUT : PIP INPUT SELECT KEY
13. P.POSITION : PIP POSITION CONTROL KEY
14. P.SIZE : PIP AND PBP MODE CHANGE
15. SWAP : PIP SOURCE SWAP
16. S.SELECT : SOUND SWAP KEY

17. AUTO (AUTO IN PROGRESS) : PRESS TO CONTROL THE MONITOR SCREEN AUTOMATICALLY
18. TV : TV INPUT SOURCE SELECT KEY
19. MENU : DISPLAYS THE MAIN ON-SCREEN MENU
20. DISPLAY : PRESS TO DISPLAY THE CURRENT PROGRAM AND AUDIO/ VIDEO SETTINGS (page.25)
21. ▲,▼ (PR+, PR-) : PROGRAM, MENU CONTROL OR PAGE UP AND DOWN KEY, STAND BY ON
22. ◄,► (VOL-, VOL+) : PRESS TO INCREASE OR DECREASE THE VOLUME OR MENU CONTROL KEY
23. ENTER : SAVE THE VALUE

◈ **TELETEXT CONTROL KEY** (page 45)

24. TTXON : TEXT ON KEY
25. MIX ▱ : MIX WITH TV SCREEN
26. STORE : STORE THE USER DEFINED FAVORITE PAGE
27. FLOF LIST : EXCHANGE FLOF/LIST MODE
28. SIZE : TELE TEXT SCREEN SIZE KEY
29. HOLD : HOLD FUNCTION DURING TELETEXT DISPLAY
30. UPDATE : DISPLAY CANCEL OR TEXT UPDATE KEY
31. INDEX : TEXT INDEX KEY
32. TIME: TIME DISPLAY
33. REVEAL : SELECT HIDDEN CONTENT DURING TELETEXT DISPLAY
34. RED, GREEN, YELLOW, BLUE : DIRECT ACCESS TELETEXT LINKED PAGE KEY

GRUNDIG

## Precautions

### Avoiding Remote Control Problems

1. Check the polarity (+,-) of the batteries in the remote controller.
2. Check that the batteries have power.
3. Check that the LCD TV is powered and that it is properly plugged in.
4. Check if any three-wavelength lamp, special fluorescent or neon sign is turned on near the LCD TV.
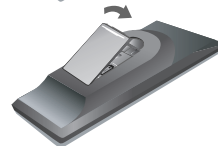
### Instering Batteries in the Remote Controller

1. Open the cover out completely.

2. Insert the two supplied batteries (AAA, 1.5V). Ensure that the polarities (+ and -) of the batteries are aligned correctly.

3. Replay the cover.

⚠ CAUTION : Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the national code (Recycling program).

## How to use remote controller

· The remote control should be operated within 23feet(7m) and 30° to the left and the right of the IR receiver on the front of the LCD TV.

· Used batteries should be disposed properly.

# VCR Connections

● Connecting to the composite terminal

※ Connection terminals of other appliances differ by manufacture and model.

< VIDEO >

(R) (L)

< LCD TV Back view >
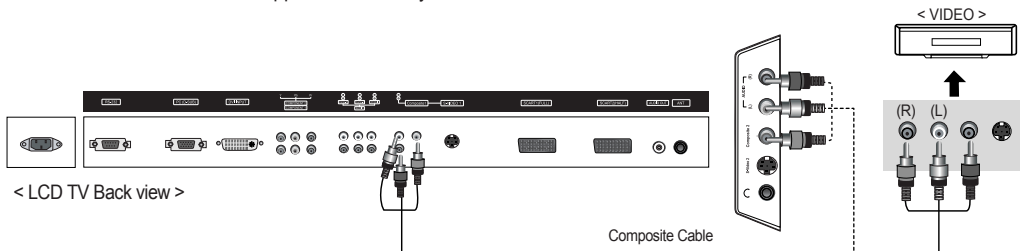
Composite Cable

· Connect the LCD TV's Composite In terminal to the VCR's Composite Out terminal using the Composite cable.
  (Make sure the colour of the terminals and the colour of the cable are the same)

● Connecting to the S-Video terminal
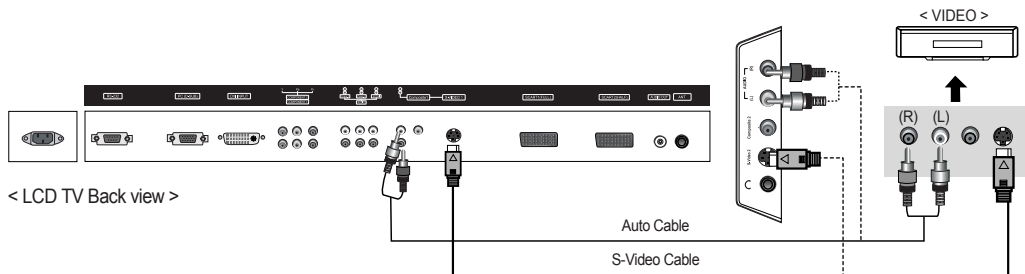
< VIDEO >

(R) (L)

< LCD TV Back view >

Auto Cable

S-Video Cable

※ Use the S-Video cable for higher picture quality.

● Connecting to the SCART terminal

< VIDEO >

(R) (L)

< LCD TV Back view >
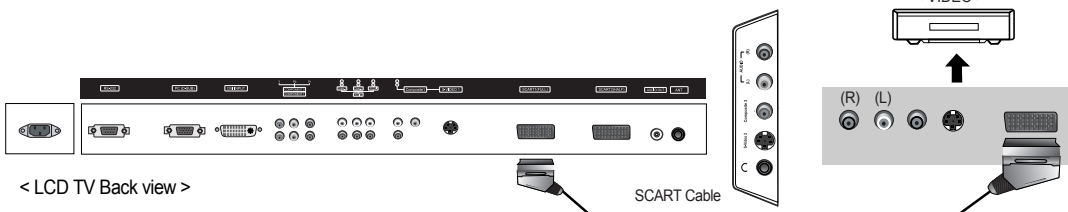
SCART Cable

· Connect the SCART terminal of the LCD TV and the VCR with the SCART cable.

# Playing the VCR

1. Turn on the LCD TV and press ( ) on the remote controller.

2. Use ( ) to move to "Composite 1/2".

· If S-Video has been connected, select "S-Video 1/2".

· If SCART terminal has been connected, select SCART1 or SCART2.

3. Turn on the VCR, insert the tape and press play button.

## Cable TV Connections

● Connecting to the composite terminal

※ In order to watch Cable TV, Subscribe to your local Cable TV company and install a separate converter(Set-Top-Box)
※ Connection terminals of other appliances differ by manufacture and model.
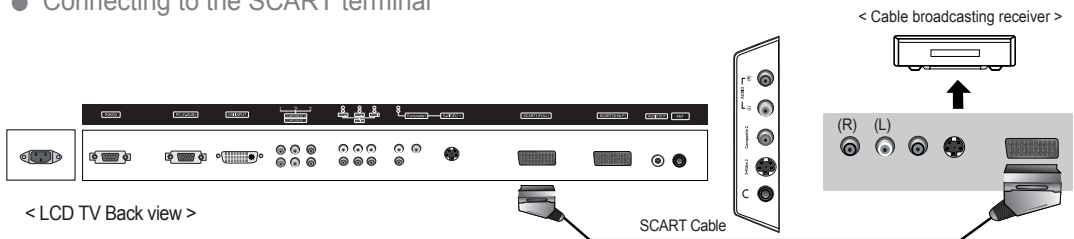
< Cable broadcasting receiver >

< LCD TV Back view >
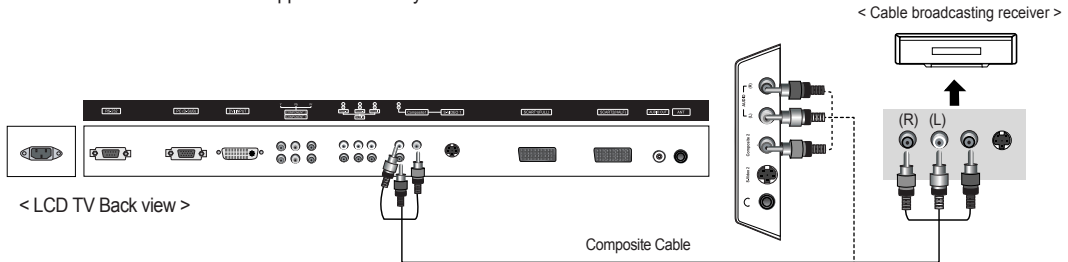
Composite Cable

· Connect the LCD TV's Composite in terminal to the cable broadcasting receiver's composite Out terminal using the Composite cable. (Make sure the colour of the terminals and the colour of cable are the same)

● Connecting to S-Video terminal

< Cable broadcasting receiver >

< LCD TV Back view >

Audio Cable

S-Video Cable

※ Use the S-Video cable for higher picture quality.

● Connecting to the SCART terminal

< Cable broadcasting receiver >

< LCD TV Back view >
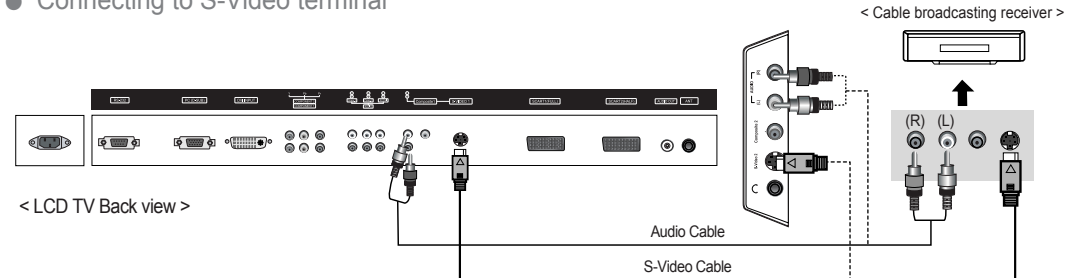
SCART Cable

· Connect the SCART terminal of the LCD TV and the cable broadcasting receiver with the SCART cable

## Viewing Cable TV

1. Turn on the LCD TV and press [SOURCE] on the remote controller.

2. Use [SOURCE] to move to "Composite 1/2".

· If S-Video has been connected, select "S-Video 1/2".

· If SCART terminal has been connected, select SCART1 or SCART2.

3. Turn on the cable broadcasting receive and select the channel you wish to view.
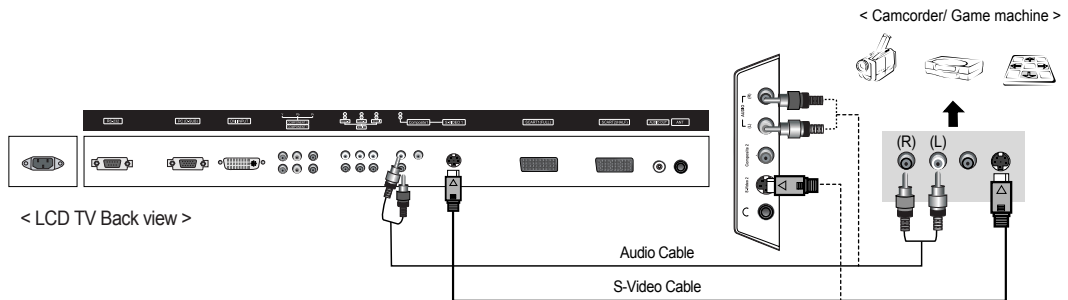
## Camcorder/Game Console Connections

● Connecting to the composite terminal

※ Connection terminals of other appliances differ by manufacture and model.

< Camcorder/ Game machine >

< LCD TV Back view >
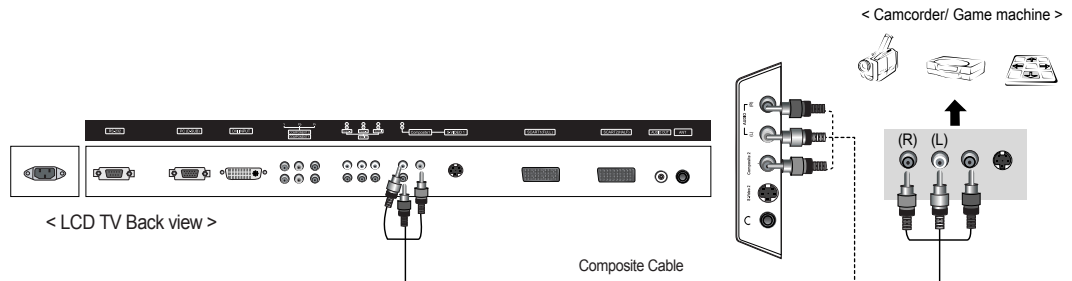
Composite Cable

· Connect the LCD TV's Composite In terminal to the camcorder/game console's Composite Out terminal with the Composite cable. (Make sure the colour of the terminals and the colour of cable are the same)

● Connecting to S-Video terminal

< Camcorder/ Game machine >

< LCD TV Back view >

Audio Cable

S-Video Cable

※ S-Video cable can be used if there is an S-Video terminal.

## Using Camcorder/Game Console

1. Turn on the LCD TV and press ( SOURCE ) on the remote controller.

2. Use ( SOURCE ) to move to "Composite 1/2".

· If S-Video has been connected, select "S-Video 1/2".

3. Turn on the Camcorder or video game and Set to Video mode.

(Please refer to the User's manual of Camcorder/ Video game for more information)

4. Insert tape into Camcorder and press play button or insert disc into the Video game console.

## DVD Connections

● Connecting to the component terminal

※ Connection terminals of other appliances differ by manufacture and model.

< DVD >

< LCD TV Back view >

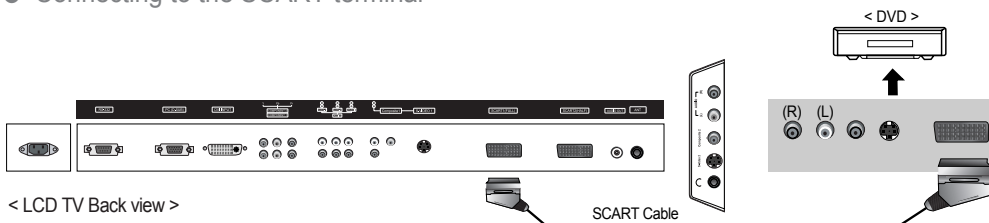Audio cable
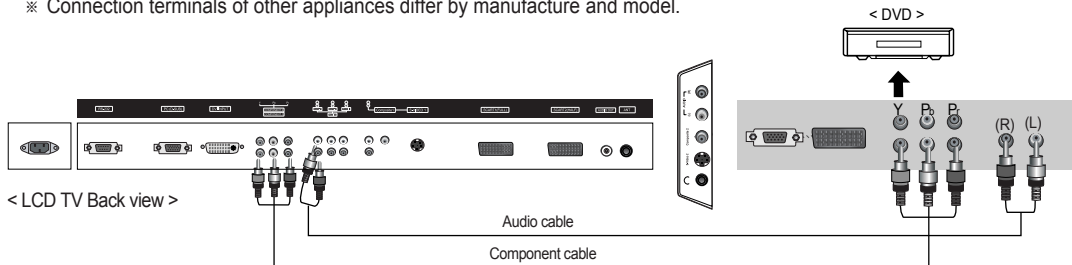
Component cable

1. Connect LCD TV's Y, P<sub>b</sub>, P<sub>r</sub> terminal in component 1/2 to DVD's Video Out terminal using the external cable.
2. Connect LCD TV's Audio terminals (left & right) in component 1/2 to DVD's Audio Out terminal using the Audio cable.

● Connecting to the S-Video terminal

< DVD >

< LCD TV Back view >

Audio Cable
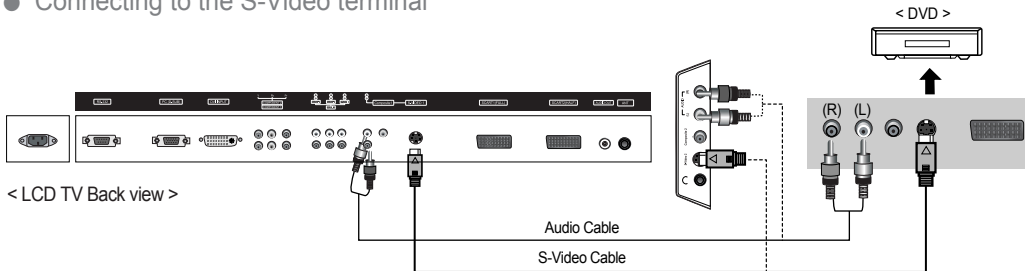
S-Video Cable

※ S-Video cable can be used if there is an S-Video terminal.

● Connecting to the SCART terminal

< DVD >

< LCD TV Back view >

SCART Cable

· Connect the SCART terminal of the LCD TV to the DVD with the SCART cable.

## Playing the DVD

1. Turn on the LCD TV and press     SOURCE     on the remote controller.

2. Use     SOURCE     to move to "Component 1/2".

· If S-Video has been connected, select "S-Video 1/2".

· If SCART terminal has been connected, select SCART1 or SCART2.

3. Turn on the DVD, insert the DVD and press Play button.

# DTV Connections

● Connecting to the component terminal

※ Connection terminals of other appliances differ by manufacture and model.

< DTV receiver>

< LCD TV Back view >

Audio Cable
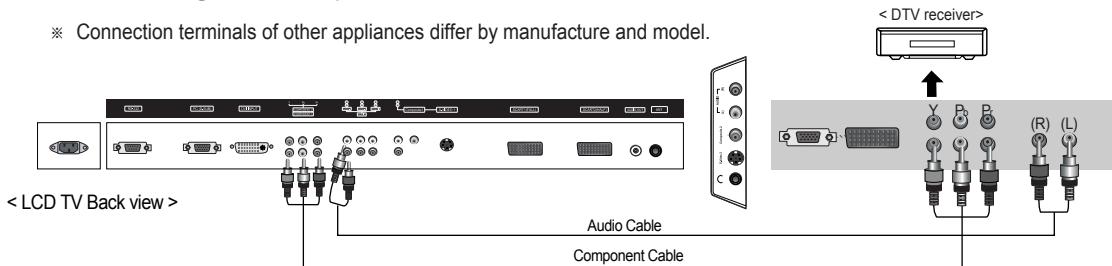
Component Cable

1. Connect LCD TV's Y, Pb, Pr terminal in component 1/2 to Video receiver's Video Out terminal using the external cable.
2. Connect LCD TV's Audio terminals (left & right) in component 1/2 to DTV receiver's Audio Out terminal using the Audio cable.

※ DTV receiver's output terminal can be marked Y, Pb, Pr or Y, Cb, Cr according to products.

● Connecting to the D-SUB or DVI terminal

< DTV receiver>

< LCD TV Back view >

Audio Cable
DVI-D Cable
D-SUB Cable
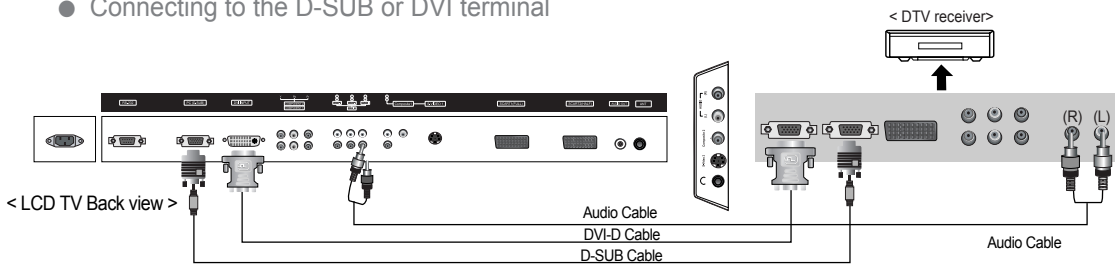
Audio Cable

· Some of DTV receiver(Set-Top-Box) have an PC Connector (D-Sub 15pin) instead of Component output .
· Some of DTV receiver(Set-Top-Box) have an DVI Connector instead of Component output .
· Connect Audio Cable from the Audio output terminal of receiver to the PC Audio input terminal of the LCD TV.

● Connecting to the SCART terminal

< DTV receiver>

< LCD TV Back view >
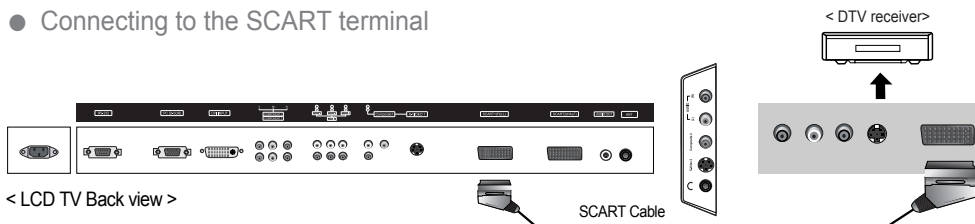
SCART Cable

· Connect the SCART terminal of the LCD TV to the DTV receiver with the SCART cable.

# Viewing DTV

1. Turn on the LCD TV and press ⊙ SOURCE on the remote controller.

2. Use ⊙ SOURCE to move to "Component 1/2".

· If D-Sub 15 Pin terminal has been connected, select PC.
· If DVI terminal has been connected, select "DVI".
· If SCART terminal has been connected, select SCART1 or SCART2 .

3. Turn on the DTV receiver and select the channel that you want.

## PC Connections

※  Connection terminals of other appliances differ by manufacture and model.

< PC >

< LCD TV Back view >

Audio Cable

D-SUB Cable
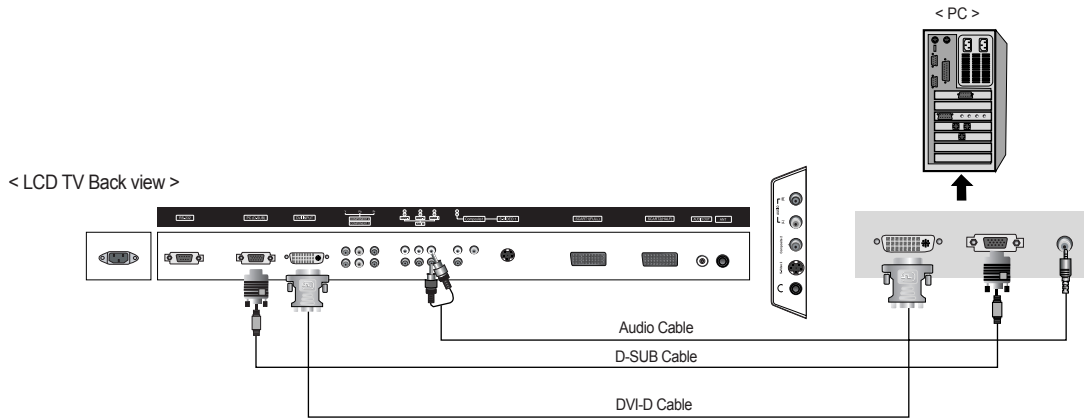
DVI-D Cable

· Connect LCD TV's RGB terminal to PC's RGB terminal using the D-Sub cable.

· Connect LCD TV's PC Audio terminal to PC's Audio terminal using the Audio cable.
 (Only possible for PC's with Audio terminal)

· If there is a DVI- D terminal in your PC, use the DVI- D cable connection.

## How to Use as PC

1. Turn on the LCD TV and press        (SOURCE)       on the remote controller.

2. Use      (SOURCE)      to move to "PC".

 · If DVI has been connected, select "DVI".

3. Set the PC video output mode to VGA (640 × 480)/ SVGA (800 × 600)/ XGA (1024 × 768), SXGA (1280 × 1024, 60Hz). In the mode higher than SXGA (1280 × 1024, 60Hz) "Out of Range" message appears. Be sure to change your PC video format to less than SXGA mode.

# Audio Out Connections

※ Connection terminals of other appliances differ by manufacture and model.

< Speaker>    < AUDIO>    < Speaker>

VIDEO    (R)    (L)

< LCD TV Back view >

Audio Out Cable          Audio Cable
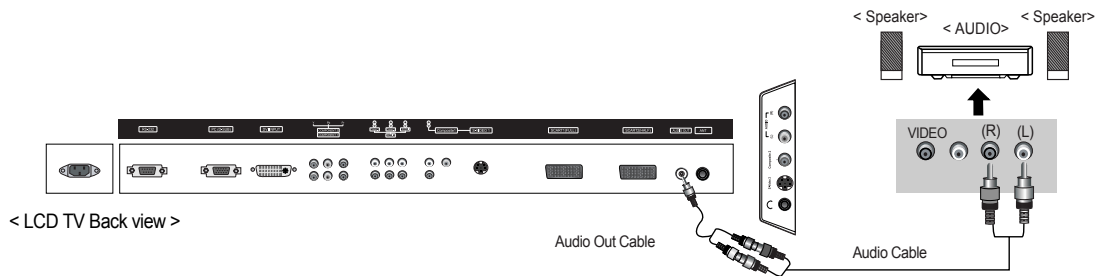
· Connect LCD TV's Audio Out terminal to AUDIO's Audio Out terminal using the Audio Out Cable.

# Headphone Connections

< LCD TV Back view >
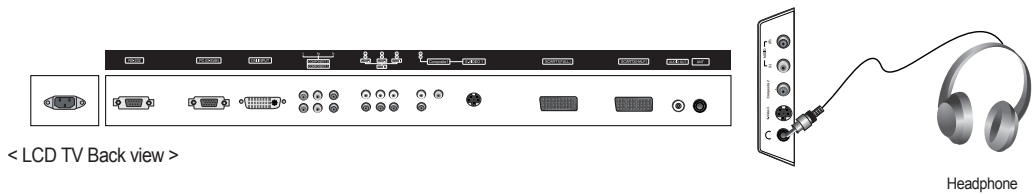
Headphone

· Connect the Headphone to the LCD TV's headphone terminal.

## External Adjustment

· Use the RS-232C jack to control monitor's functions externally by external equipment.

● How connect a external equipment



RS232C Cable

&lt;Back view of the LCD TV&gt;
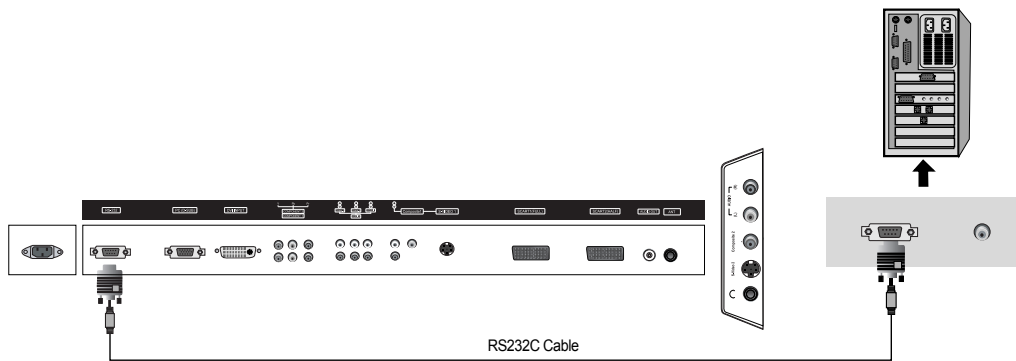
⚠ Caution : Regular customer does not allow using the external adjustment that is used for service
purpose only.

## Powering the LCD TV

● Power on/ off

· To turn the LCD TV on :
 Press the "Main Power" button of LCD TV and then press the "Standby" button.
· To turn the LCD TV off :
 Press "Standby" button on the LCD TV and then press the "Main Power" button.
 Turning the main power switch off will save energy. It is the same as unplugging the power cord.
 If ON Time setting is set, the main power should be ON.
· To turn on/off by remote controller :
 Press the Power button of remote controller (If the LCD TV is not turned on, check that the "Main Power"
 button on the LCD TV main body is turned on. The main power indicator will light up red if turned on).

⚠ CAUTION - After turning off the main Power, please wait at least more than 3 seconds to turn the main power back on.

## Initial Settings

· When the brand new television set it turned on for the first time, following settings can be set using the plug
 and play function of the TV.
· Press the "Main power" button of LCD TV and then press the "Stand by" button. You will see the country mode
 selection menu.

● Using the menu

| | | |
|---|---|---|
| Press | MENU | . |
| Use | | to move to Setup . |
| Press | ENTER | to select. |
| Press | ▼ | to move to "Plug & Play". |
| Press | ENTER | to select. |
| Use | | to move to the desired "country". |
| Press | ENTER | to select. |
| | | • Automatically "ATM" beginning. |
| | | • After "ATM" ends, select the desired Language. |
| | | • Select other of none expressed country. |
| Use | | to move to the desired "Language". |
| Press | ENTER | to select. |
| Press | MENU | to go back to the previous menu. |

## Watching TV

● Channel Selection

increases the channel.

decreases the channel.
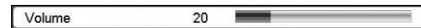
● To go back to the previous channel

Press [ LAST ] to go back to the channel previously viewed.

● Volume Control

increases the volume.

decreases the volume.

| Volume | 20 | |
| --- | --- | --- |

● To turn off only sound

• Use the mute function to turn off the LCD TV sound for a while, when a phone or a bell rings.

Press [ MUTE ] button again to hear the sound again.

● INFO - To check the current state

Press [ DISPLAY ] button on the remote control.

| Information | |
| --- | --- |
| Abc | |
| Screen Mode | Custom |
| Sound Mode | Custom |
| Sleep Timer | Off |
| Clock | Abc : Abc |
| Size | Auto Wide |

• Display shows user's setting and selections.

Press [ DISPLAY ] button or wait 10 seconds for the display to disappear.

## Selecting TV/External Input

• You can between the TV signal and the input signal of other appliances connected to the TV.

• Use this function to switch to the input source you wish to view.

Press ( SOURCE ) .

Use ( SOURCE ) to move to the desired input source.

| TV | → | SCART 1 | → | SCART 2 | → | Composite 1 | → | S-Video 1 | → | Composite 2 |

| PC | ← | DVI | ← | Component 2 | ← | Component 1 | ← | S-Video 2 |
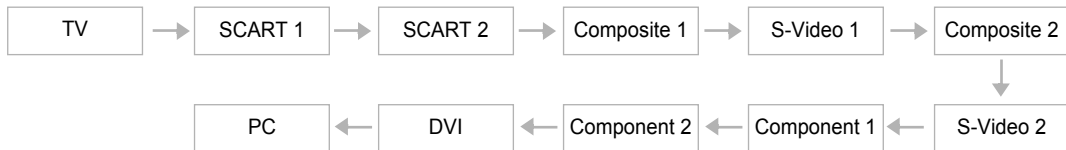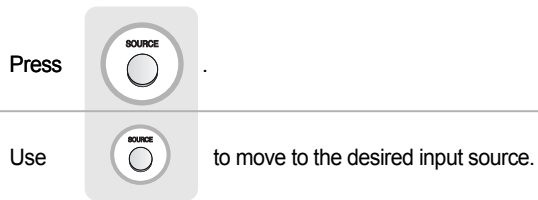
※ Once Source button press it indicate a present status and repress it is set with different itput Source.

※ Only connected selection it is possible.

※ Aside from the watching TV, you can connect SCART 1/2, Composite 1/2 , S-Video 1/2, Component PC and DVI  to the TV set and enjoy these functions.

※ All input sources will be automatically detected and displayed on screen, but you may select an activated source when the input cable is connected only.
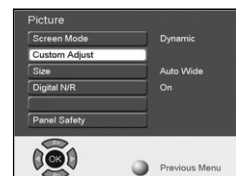
## Using the Menu

Press ( MENU ) . • The menu screen will appear.

Use ( ▲▼ ) to move the cursor to the desired function.

Press ( ENTER ) to select.

Press ( MENU ) to go back to the previous menu.

MAIN MENU
Picture
CH
PIP
Sound
Setup
Time

GRUNDIG

OK    Exit(Menu)

Picture
Screen Mode        Dynamic
Custom Adjust
Size               Auto Wide
Digital N/R        On

Panel Safety

OK    Previous Menu

## To Set Location

Press [MENU] .

Use [PR+/PR-] to move to [ CH ] .

Press [ENTER] to select.

Press [PR-] to move to "Country".

MAIN MENU
Picture
CH
PIP
Sound
Setup
Time

GRUNDIG

OK     Exit(Menu)

Use [VOL+/VOL-] to select the desired country.

Press [MENU] to go back to the previous menu.

Channel
Country          Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune

Previous Menu

· TV System Standard

I/PAL : United Kingdom, Hongkong

B.G/PAL : Germany ,Netherland, Switzerland, Italy, Austria, Yugoslavia

B/PAL : Australia, New Zealand, Singapore,  Norway, India, Thailand, Indonesia, Malaysia

D/PAL : China,  North Korea

B.H/PAL : Belgium

L/SECAM : France

D.K/SECAM : Russia, Poland, Czechoslovakia, Hungary

B/SECAM : Egypt,  Iran, Iraq

## Setting Channels

• Use the Auto Search function to preset all channels that are being broadcast

| Press | MENU | . |
| --- | --- | --- |
| Use | | to move to CH . |
| Press | ENTER | to select. |
| Press | | to move to "ATM". |
| Press | ENTER | to select. |

Channel
Country        Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune
Previous Menu

| Use | | to move to "Start". |
| --- | --- | --- |
| Press | ENTER | to select. |

ATM                    0  %
Freq. Search        : Abc   MHz
Prog. No.            : 3
CH                    : C   Abc
Start          Exit(Menu)

• Press "Start" to start the automatic channel search/set function.
All broadcasting channels will be set.
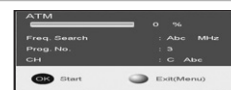
| Press | MENU | to go back to the previous menu. |
| --- | --- | --- |

• ATM : Auto tuning management.

## To set or erase a channel

| Press | MENU | . |
| --- | --- | --- |
| Use | | to move to CH . |
| Press | ENTER | to select. |
| Press | | to move to "Add/ Erase". |
| Press | ENTER | to select. |

Channel
Country        Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune
Previous Menu

| Use | | to move to "Add" or "Erase". |
| --- | --- | --- |
| Press | ENTER | to select. |
| Press | MENU | to go back to the previous menu. |

Add/Erase
Prog. No.          : 3
Add/Erase          : Not in Memory
Add         Erase
Previous Menu
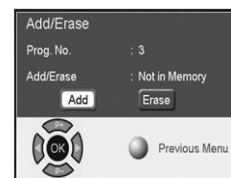
## Changing Picture Settings

Press (MENU) .

Use (PR) to move to Picture .

Press (ENTER) to select.

Press (PR) to move to "Screen Mode".

Use (VOL) select between Custom/ Dynamic/ Standard/ Move/ Mild.

Press (MENU) to go back to the previous menu.

Custom → Dynamic

Standard

Mild ← Movie
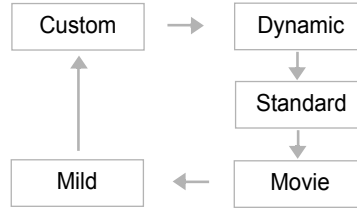
· Custom : Select to set user's preferences.
· Dynamic : Select when using the LCD TV in a brightly lit environment.
· Standard : It is the best screen setting.
· Movie : Select when watching a movie.
· Mild : Select when using the LCD TV in a dimly lit environment.

● Custom Picture Adjustment

Press (MENU) .

Use (PR) to move to Picture .

Press (ENTER) to select.

Press (PR) to move to "Custom Adjust".

Press (ENTER) to select.

Use (PR) to move to the desired category.

Use (VOL) to adjust the setting.

Use (PR) select between Brightness/ Contrast/ Colour/ Sharpness

Press (MENU) to go back to the previous menu.
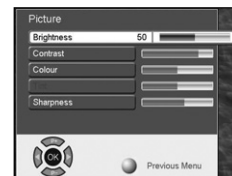
## Custom Mode

· Brightness : It adjusts the brightness of the image.
· Contrast : It adjusts the contrast of image.
· Tint : It adjust the natural tint of the image.
· Colour : It adjusts the intensity of the colour.
· Sharpness : It adjusts the clarity of the image.

## Changing Sound Settings

Press (MENU) .

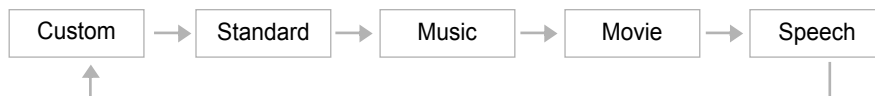Use (PR) to move to  Sound  .

Press (ENTER) to select.

Press (PR▼) to move to "Custom Adjust".

Press (ENTER) to select.

Use (◀❏❏▶) select between Custom, Standard, Music, Movie, Speech.

Press (MENU) to go back to the previous menu.

Sound
Volume
Custom Adjust
Auto Volume Level          On
MTS                        Stereo
Sound Output               Internal
Balance
OK          Previous Menu

Equalizer
◀          Custom          ▶
10 KHz  3 KHz  1 KHz  300 Hz  100 Hz
OK          Previous Menu

| Custom | → | Standard | → | Music | → | Movie | → | Speech |

· Standard : It is the flat sound setting with no equalizer effect at all.
· Music : It is preset for music listening.
· Movie : It is preset sound for watching a movie.
· Speech : It is preset for hearing vocal audio clearly.
· Custom : Select when listening to the sound to user's preference.

> Sound

· Volume : It adjusts the sound volume.
· Balance : It adjusts the volume of speakers on the left and the right.
· Equalizer : It adjusts the volume by frequency bands and the user can select the desired sound quality.

## Custom Sound Adjustment

Press [MENU] .
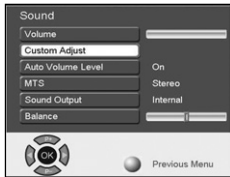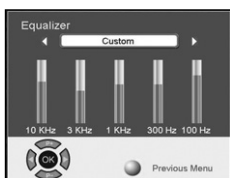
Use [▲▼] to move to Sound .

Press [ENTER] to select.

Press [▼] to move to "Custom Adjust".

Press [ENTER] to select.

Use [◄►] to move to the desired category.

Use [▲▼] to adjust the setting.

Press [MENU] to go back to the previous menu.

Sound
Volume
Custom Adjust
Auto Volume Level    On
MTS                  Stereo
Sound Output         Internal
Balance
OK    Previous Menu

Equalizer
◄    Custom    ►
10 KHz  3 KHz  1 KHz  300 Hz  100 Hz
OK    Previous Menu

Equalizer
Custom
10 KHz  3 KHz  1 KHz  300 Hz  100 Hz
OK    Previous Menu

## Sound Output

Press [MENU] .
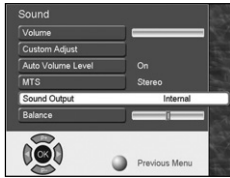
Use [▲▼] to move to Sound .

Press [ENTER] to select.

Press [▼] to move to "Sound Output".

Use [◄►] to select the "External" or "Internal".

Press [MENU] to go back to the previous menu.

Sound
Volume
Custom Adjust
Auto Volume Level    On
MTS                  Stereo
Sound Output         Internal
Balance
OK    Previous Menu

|          | Built-in Speaker | External Speaker | Note |
|----------|------------------|------------------|------|
| External | X | O | 500mVrms |
| Internal | O | X | Adjusts the Sound Volume |

## Selecting the Menu Language

- Menu screen can be viewed in the language preferred by the user.

Press ⬤ .

Use 🔘 to move to Setup .

Press (ENTER) to select.

Press 🔘 to move to "Language".

| Setup | |
|---|---|
| Reset | |
| Plug & Play | |
| Language | English |
| Blue Screen | Off |
| | |

⊙ Previous Menu

Use 🔘 to select the desired language.

Press ⬤ to go back to the previous menu.

## Setting Blue Background

• The LCD TV can be set to display blue screen when no TV signal or signal from other connected appliances are being received. If there is an incoming signal, the blue screen will be replaced by the normal picture screen.

Press    **MENU**    .
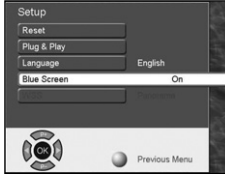
Use    to move to [ Setup ] .

Press    **ENTER**    to select.

Press    to move to "Blue Screen".

Setup
Reset
Plug & Play
Language    English
Blue Screen    On
OK    Previous Menu

Use    to select the "On" or "Off".

Press    **MENU**    to go back to the previous menu.

## Setting Digital Noise Reduction

• Use when screen is noise or lines appear.

Press    **MENU**    .

Use    to move to [ Picture ] .

Press    **ENTER**    to select.

Press    to move to "Digital N/R".

Picture
Screen Mode    Custom
Custom Adjust
Size    Auto Wide
Digital N/R    On
Panel Safety
OK    Exit(Menu)

Use    to select the "On" or "Off".

Press    **MENU**    to go back to the previous menu.

## Changing Screen Size

Press [ARC] .

| Auto wide | → | wide | → | Panorama | → | Zoom1 | → | Zoom2 | → | 4 : 3 (normal) | → | 14 : 9 |

- In PC input mode, you can only select either the wide or the normal (4 : 3) mode.
- In Component 1/2 input mode, you can't Select Auto Wide.
- In Component 1/2 input mode (1080i), you can't Select Zoom2.



Auto wide → wide → Panorama

14 : 9 ← 4 : 3 ← Zoom 2 ← Zoom 1
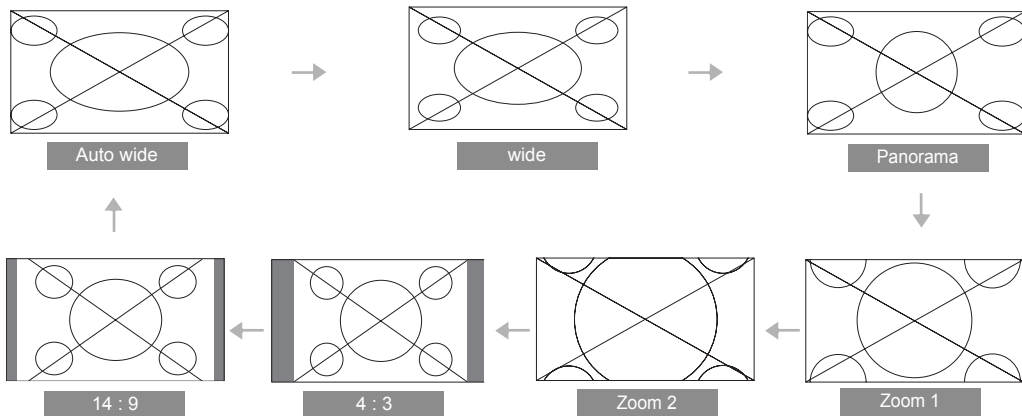
## Screen Size

- · Auto wide - It automatically displays for the screen format of input signal.
- · wide - It makes 16 : 9 format for input signal.
- · Panorama - It makes 4 : 3 format fit into 16 : 9 format with minimal loss in content.
- · Zoom 1 - It enlarges the natural screen factor by approx. 5 %
- · Zoom 2 - It enlarges the natural screen factor by approx. 10 %
- · 4 : 3 - It is the standard format of broadcasting.
- · 14 : 9 - It makes 14 : 9 format for input signal.

# Changing the Screen Size for WSS Signal Input

- When WSS signal is incoming from a connected external appliance, screen size can be changed to panorama or 4 : 3.

| | | |
|---|---|---|
| Press | MENU | . |
| Use | | to move to Setup . |
| Press | ENTER | to select. |
| Press | PR- | to move to "WSS ". |
| Use | | to select the Panorama or 4 : 3. |
| Press | MENU | to go back to the previous menu. |

Setup
Reset
Plug & Play
Language          English
Blue Screen       Off
WSS               Panorama

OK    Previous Menu

- WSS : Wide Screen Size.

# Manual Store

- Colour system and sound system can be setup for each channel.

| | | |
|---|---|---|
| Press | MENU | . |
| Use | | to move to CH . |
| Press | ENTER | to select. |
| Press | PR- | to move to "Manual Store". |
| Press | ENTER | to select. |

Channel
Country         Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune

OK    Previous Menu

| | | |
|---|---|---|
| Use | | to move to the desired category. |
| Use | | to adjust the setting. |
| Press | MENU | to go back to the previous menu. |

Manual Store
Program No.        3
Colour System      SECAM
Sound System       L
Channel          C    Abc
Freq. Search     Abc   MHz
Store            OK

OK    Previous Menu

- Select "OK" in Manual Store to save the Program settings.

35

## Sorting Program

• In this mode, you can arrange programs in numerical order.

Press (MENU) .

Use (⬆⬇) to move to CH .

Press (ENTER) to select.

Press (PR) to move to "Program Sort".

Press (ENTER) to select.

Channel
Country          Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune
CH          Previous Menu

Use (⬆⬇) to move to the desired Program Number.

Press (ENTER) to move to the next category.

Program Sort
Prog. No.   CH  Program Name
                              ▶
OK          Previous Menu
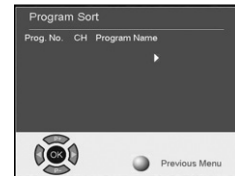
Use (⬆⬇) to move to the Preferred Program Number.

Press (ENTER) to sort.

Program Sort
Prog. No.   CH  Program Name
                              ◀
OK          Previous Menu

Press (MENU) to go back to the previous menu.

## Editing Program Name

• Favorite programs can be stored to make it easier to find.

Press [MENU] .

Use [PR ▲▼] to move to `CH`.

Press [ENTER] to select.

Press [PR ▼] to move to "Program Name".

Press [ENTER] to select.

| Channel | |
|---|---|
| Country | Australia |
| ATM | |
| Manual Store | |
| Add/Erase | |
| Program Sort | |
| Program Name | |
| Fine Tune | |

Previous Menu

Use [PR ▲▼] to move to the desired Program Number.

Press [ENTER] to move to program name.

Use [PR ▲▼] to register program name.

Press [MENU] to go back to the previous menu.

**Program Name**

| Prog. No. | CH | Program Name |
|---|---|---|

Exit(Menu)

## Adjusting Unclear Screen

• Use screen fine-tune controls to adjust the screen when picture quality is unclear or lines appear.

Press **MENU** .

Use to move to CH .

Press **ENTER** to select.

Press to move to "Fine Tune".

Press **ENTER** to select.

Use to tune.

Press **MENU** to go back to the previous menu.

Channel
Country         Australia
ATM
Manual Store
Add/Erase
Program Sort
Program Name
Fine Tune
OK         Previous Menu

Fine Tune
0
Reset
OK         Exit(Menu)

To return to initial setting or Auto Setting, use to select "Reset" and press **ENTER** .

## To view the still picture

Press **STILL** .

• Picture will freeze, but sound will continue to be heard.

Press **STILL** again to cancel.

# Viewing Picture in Picture

Press (MENU) .

Use (PR) to move to PIP .

Press (ENTER) to select.

Press (PR) to move to "Mode".

Use (◁□▷) to select the "On" or "Off".

Press (MENU) to go back to the previous menu.

• Or press (PIP) .

• Sound from only one of the screens may be heard.
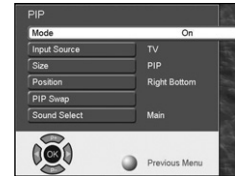
● TV/External Input

Press (PR) to move to "Input Source".

Use (◁□▷) to select the desired input source.

Press (MENU) to go back to the previous menu.

• Or press (P.INPUT) .

• The sub-screen can be changed to display picture from the desired input source.
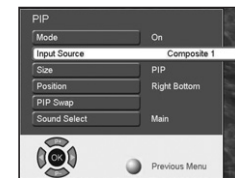
● Changing the Screen Size

Press (PR) to move to "Size".

Use (◁□▷) to select the desired size.

Press (MENU) to go back to the previous menu.

• Or press (P.SIZE) .
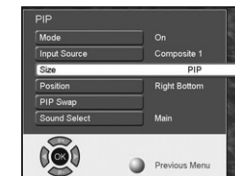
# Viewing Picture in Picture

● Selecting Position

Press ⬆ to move to "Position".

⬇

Use ◀◎▶ to select the desired position.

Press MENU to go back to the previous menu.

• Or press PPOSITION .

• Sub-screen position can be selected only from the ▢ .

| PIP | |
|---|---|
| Mode | On |
| Input Source | Composite 1 |
| Size | PIP |
| Position | Right Top |
| PIP Swap | |
| Sound Select | Main |

Previous Menu

---
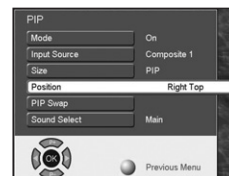
● Main Screen/Sub Screen Swap

Press ⬆ to move to "PIP Swap".

⬇

Press ENTER to select "OK".

Press MENU to go back to the previous menu.

| PIP | |
|---|---|
| Mode | On |
| Input Source | Composite 1 |
| Size | PIP |
| Position | Right Top |
| PIP Swap | OK |
| Sound Select | Main |

Previous Menu

• The main screen and the sub screen will swap.

---

● Selecting Sub Screen Sound

Press ⬆ to move to "Sound Select".

⬇

Use ◀◎▶ to select the "Main" or "Sub".

Press MENU to go back to the previous menu.

| PIP | |
|---|---|
| Mode | On |
| Input Source | Composite 1 |
| Size | PIP |
| Position | Right Top |
| PIP Swap | |
| Sound Select | Sub |

Previous Menu
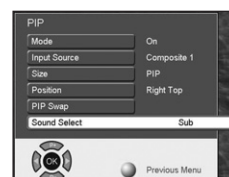
• The sound of the sub screen can be selected when PIP is being displayed.

# Auto Volume Level

• This feature maintains an equal Volume level ; even if you change channels.

| | | |
|---|---|---|
| Press | MENU | . |
| Use | | to move to Sound . |
| Press | ENTER | to select. |
| Press | | to move to "Auto Volume Level". |
| Use | | to select the "On" or "Off". |
| Press | MENU | to go back to the previous menu. |

Sound
Volume
Custom Adjust
Auto Volume Level          On
MTS                        Mono
Balance
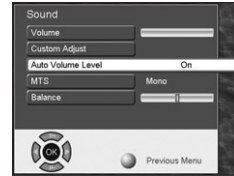
Previous Menu

# Stereo Settings

| | | |
|---|---|---|
| Press | MENU | . |
| Use | | to move to Sound . |
| Press | ENTER | to select. |
| Press | | to move to "MTS". |
| Use | | to select the desired category. |
| Press | MENU | to go back to the previous menu. |
| • Or press | MTS | . (Multi Television Sound) |

Sound
Volume
Custom Adjust
Auto Volume Level          On
MTS                        Stereo
Balance

Previous Menu
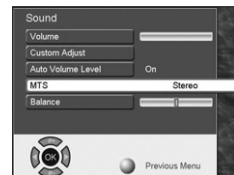
## Resetting LCD TV Settings

• It resets all of the parameters to the factory default.

Press ⬤MENU .

Use 🔘 to move to Setup .

Press 🔘ENTER to select.

Press 🔘 to move to "Reset".

Press ⬤MENU to select "OK".

Setup
Reset               OK
Plug & Play
Language          English
Blue Screen       Off
WSS               Panorama

Previous Menu

※ The LCD TV will turn off. The parameters will be set to factory default.

## Setting Time

Press ⊙ .

Use 🔼 to move to `Time` .

| Time | | | |
|---|---|---|---|
| Clock | | Abc | Abc |
| On Timer | | Abc : Abc | Off |
| Off Timer | | Abc : Abc | Off |
| On Time Program | | Prog 0 | |
| On Time Volume | | 0 | |
| Timer Mode | | Once | |

Press ⊙ to select.

Press 🔼 to move to "Clock".

Press ▶ to move one step.

Use 🔼 to adjust the desired hour.

Press ▶ to move one step.

Use 🔼 to adjust the desired minute.

Press ⊙ to go back to the previous menu.

※ You can set your local time by adjusting the differences from GMT, according to your location.

# Automatic Power On/Off

● Clock time must be set

Press ⬤(MENU) .

Use 🔘(PR) to move to [ Time ].

Press ⬤(ENTER) to select.

Press 🔘(PR) to move to desired category.

Press ⬤(MENU) to go back to the previous menu.

| Time | | |
|---|---|---|
| Clock | Abc : Abc | |
| On Timer | Abc : Abc | Off |
| Off Timer | Abc : Abc | Off |
| On Time Program | Prog 0 | |
| On Time Volume | 0 | |
| Timer Mode | Once | |

OK    ◯ Previous Menu

| | Setting Time for Power On | Setting Time for Power Off |
|---|---|---|
| **Setting Hour**<br>Use ◀▶ to select,<br>🔘 to set | On Timer : 10 : 00 Off | Off Timer : 22 : 00 Off |
| **Setting Minute**<br>Use ◀▶ to select,<br>🔘 to set | On Timer : 10 : 30 Off | Off Timer : 22 : 20 Off |
| **Set/Cancel**<br>Use ◀▶ to select,<br>🔘 to select the "On" or "Off" | On Timer : 10 : 30 On | Off Timer : 22 : 20 On |
| **Channel Select**<br>Use ◀▶ to set program | On Timer Program : Prog 7 | |
| **Volume Control**<br>Use ◀▶ to set volume | On Timer Volume : 11 | |

• It sets the current time and then the automatic turn on/off can be set. The time settings are retained only if the main power is off, the time is reset. To retain the time setting, do not turn the main power switch off.

● To have the TV turn off after you fall a sleep

Press 🔲(SLEEP) .

• It automatically turns off the TV after a designated period of time
• Depending on the number of times the "Sleep" button is pressed, the TV will be turned off after 30, 60, 90, 120, 150 or 180 minutes.

## Teletext

### Basic Function

■ TEXT On/Off

1. Press "ON" once , then displays the Teletext pages.

2. If you press "ON" once more, Text mode is off.

■ TOP TEXT

The user guide displays four fields-red, green, yellow and blue at the bottom of the screen. The yellow field denotes the next group and the blue field indicates the next block.

- Group/Block/Page selection

1. WIth the blue button you can progress block to block.

2. Use the Yellow button to proceed to the next group with automatic overflow to the next block.

3. With the Green button you can proceed to the next existing page with automatic overflow to the next group.

4. The RED button permits to return to previous selection.

■ FLOF TEXT

The teletext pages are colour coded along the bottom of the screen and are selected by pressing the corresponding coloured button.

- Page selection

1. Press the Index button to select the index page.

2. You can select the pages, which are colour coded along the bottom line with the same coloured buttons.

### Special Teletext Function key

■ MIX : In the mix mode display, the underlying video and the teletext page display are both simultaneously visible on the screen. This command turns the display to mix mode and is enabled only in the text mode.

■ STORE : This command stores the user defined favorite pages. This command is enabled only if the list mode is active.

■ LIST : This command toggles between list mode and current. Text mode(FLOF, TOP or normal)

■ SIZE : Toggle the display page size between double-size top, double-size bottom and normal.

■ HOLD : The update of the current display page is halted so that the content will not be changed.

■ CANCEL : Press this button to view the updated teletext page or display cancel.

■ INDEX : Return to the index page.

■ TIME : When watching a TV program, press this button to display the time at the top right hand corner of the screen.

   Press this button again to remove the display.

■ REVEAL : Press this button to display the concealed information. Such as solutions of riddles or puzzles.

■ RED, GREEN, YELLOW, BLUE-In the TOP/FLOF automatic navigation mode, these keys select and display the linked page.

## External adjustment

● How connect a external equipment

<Back view of the LCD TV>

Set ID

Press [MENU] .

Use [△/▽] to move to Setup .

Press [ENTER] to select.

Press [▽] to move to "Set ID".

| Setup | |
|---|---|
| Reset | |
| Plug & Play | |
| Language | English |
| Blue Screen | Off |
| Set ID | 0 |
| | |
| ◉◉ OK | ● Previous Menu |
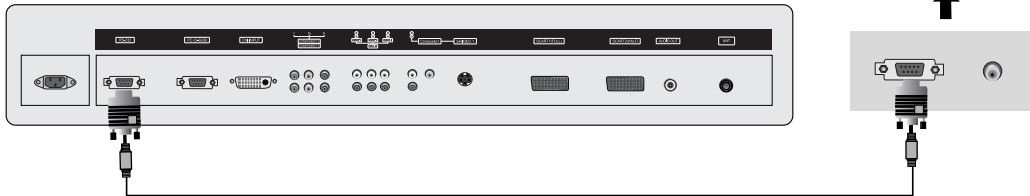
Use [◁◁▷] to select the desired ID number.

Press [MENU] to go back to the previous menu.
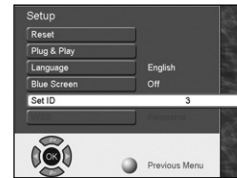
• The adjustment range of Set ID is 0 ~ 99.

| Setup | |
|---|---|
| Reset | |
| Plug & Play | |
| Language | English |
| Blue Screen | Off |
| Set ID | 3 |
| | |
| ◉◉ OK | ● Previous Menu |

# Special features

● Type of connector :  D-Sub 9-pin male

| No. | Pin name |
|-----|----------|
| 1 | No connection |
| 2 | RXD (Receive data) |
| 3 | TXD (Transmit data) |
| 4 | DTR (DTE side ready) |
| 5 | GND |
| 6 | DSR (Dce side ready) |
| 7 | RTS (Ready to send) |
| 8 | CTS (Clear to send) |
| 9 | No Connection |

Pin NO.4 and Pin
NO.6 must be
connected on
monitor side

❶ ❺ ❾ ❻
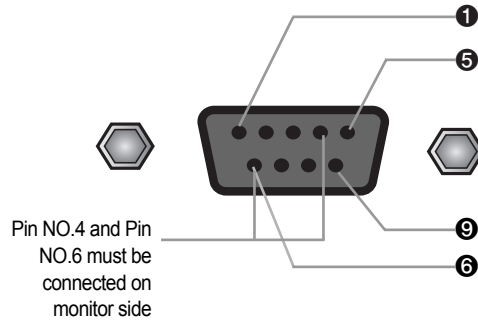
· Use a crossed (reverse) cable.

Wire the cable so that each pair of  data lines cross between the two devices. These data line pairs are RXD (Receive to send) and TXD (Transmit data), DTR (DTE side ready) and DSR (DCE side ready), and RTS (Ready to send) and CTS (Clear to send).

● RS-232C configurations

· 7-wire configuration
(Standard RS-232C cable)
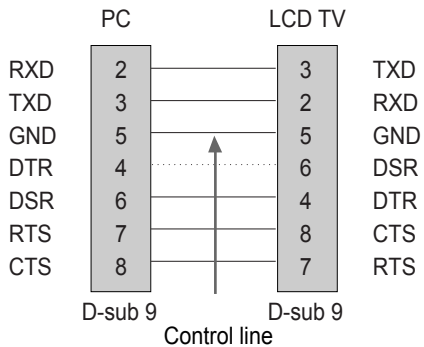
· 3-wire configuration
(Not standard)

| PC | | | LCD TV | | PC | | | LCD TV | |
|----|---|---|--------|---|----|---|---|--------|---|
| RXD | 2 | | 3 | TXD | RXD | 2 | | 3 | TXD |
| TXD | 3 | | 2 | RXD | TXD | 3 | | 2 | RXD |
| GND | 5 | | 5 | GND | GND | 5 | | 5 | GND |
| DTR | 4 | | 6 | DSR | DTR | 4 | | 4 | DTR |
| DSR | 6 | | 4 | DTR | DSR | 6 | | 6 | DSR |
| RTS | 7 | | 8 | CTS | RTS | 7 | | 7 | RTS |
| CTS | 8 | | 7 | RTS | CTS | 8 | | 8 | CTS |
| | D-sub 9 | | D-sub 9 | | | D-sub 9 | | D-sub 9 | |
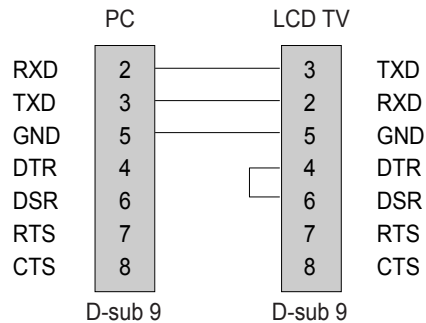
Control line

# RS232C Communication Protocol

● COMMUICATION PARAMETERS

- BAUD RATE : 9600 bps
- Data Length : 8bits
- Parity : None
- Stop bit : 1bit

※ The Remote Control and LCD TV Key  Control(Except Main Power) Don't Operate When Controlling LCD TV Set by PC.

● Command List

| Item | ASCII Code | Data(hex) | Item | ASCII Code | Data(hex) |
|------|-----------|-----------|------|-----------|-----------|
| 1. Power | p | 00h~01h | 11. Sharpness | h | 00h~64h |
| 2. Input Source | i | 00h~07h | 12. Information | f | 00h~01h |
| 3. Aspect Ratio | r | 00h~08h | 13. Pip On | o | 00h~01h |
| 4. Volume Mute | w | 00h~01h | 14. Pip Source | u | 00h~07h |
| 5. Volume Control | v | 00h~64h | 15. Pip Location | n | 00h~03h |
| 6. Screen Mode | s | 00h~04h | 16. Pip Sound set | e | 00h~01h |
| 7. Brightness | b | 00h~64h | 17. Pip Mode | d | 00h~02h |
| 8. Contrast | k | 00h~64h | 18. Remote Control On | j | 00h~01h |
| 9. Colour | c | 00h~64h | 19. Abnormal State | q | 00h~01h |
| 10. Tint | t | 00h~64h | 20. Sound Mode | y | 00h~04h |

● Tramsmission / Receiving Protocol List

* Transmission

{Command}{ }{SET ID}{ }{Data}{Cr}

- {Commad}     To Control Code LCD TV
- { }     "Space , ASCII Code = 0x20"
- {SET ID}     You Can Adjust SET ID Setup Menu of LCD TV
- {Data}     Data Command Transmit 'FF' data to data read mode
- {Cr}     Carriage Return ASCII Code 0x0d

* Ok Acknowledge

{SET ID}{:}{OK}{x}{Data}{x}

- The LCD TV set transmits ASCII based on this format When receiving normal data. At this time, If the data is data read mode, it indicates present status data if  the data is data write mode, it returns the data of PC.

* In case set ID is 0, Ack data doesn't feed back, and you can adjust all LCD TV set.

# RS232C Communication Protocol

### 1. Power : p

▶ To Control Power On/Off of the LCD TV
* Transmission
  {p}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : Off
  Data 1 : On
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : Off
  Data 1 : On

▶ Read Power On Source Status
* Transmission
  {p}{ }{SET ID}{ }{FF}{Cr}
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : Power Off
  Data 1 : Power On
  Data 2 : TV
  Data 3 : Scart 1
  Data 4 : Scart 2
  Data 5 : Composite 1
  Data 6 : S-Video 1
  Data 7 : Composite 2
  Data 8 : S-Video 2
  Data 9 : Component 1
  Data 10 : Component 2
  Data 11 : DVI
  Data 12 : PC

※ If Other Functions Transmit 0xFF data based on this format, Ack data feeds back present status about each function.

### 2. Input Source : i

▶ To Input Source Select
* Transmission
  {i}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : TV
  Data 1 : Scart 1
  Data 2 : Scart 2
  Data 3 : Composite 1
  Data 4 : S-Video 1
  Data 5 : Composite 2
  Data 6 : S-Video 2
  Data 7 : Component 1
  Data 8 : Component 2
  Data 9 : DVI
  Data 10 : PC

* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : TV
  Data 1 : Scart 1
  Data 2 : Scart 2
  Data 3 : Composite 1
  Data 4 : S-Video 1
  Data 5 : Composite 2
  Data 6 : S-Video 2
  Data 7 : Component 1
  Data 8 : Component 2
  Data 9 : DVI
  Data 10 : PC

### 3. Aspect Ratio : r

▶ To adjust screen format
* Transmission
  {r}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : Auto wide
  Data 1 : Wide
  Data 2 : Panorama
  Data 3 : Zoom1
  Data 4 : zoom2
  Data 5 : 4:3
  Data 6 : 14:9
  Data 7 : 4:3(In PC Mode)
  Data 8 : Wide(In PC Mode)

* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : Auto wide
  Data 1 : Wide
  Data 2 : Panorama
  Data 3 : Zoom1
  Data 4 : zoom2
  Data 5 : 4:3
  Data 6 : 14:9
  Data 7 : 4:3(In PC Mode)
  Data 8 : Wide(In PC Mode)

## RS232C Communication Protocol

### 4. Volume Mute : w

▶ To Select volume mute on/off
* Transmission

{w}{ }{SET ID}{ }{Data}{Cr}

Data 0 : On
Data 1 : Off
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : On
Data 1 : Off

### 5. Volume Control : v

▶ To adjust volume
* Transmission

{v}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

### 6. Screen Mode : s

▶ To Select Screen Mode
* Transmission

{s}{ }{SET ID}{ }{Data}{Cr}

Data 0 : Custom
Data 1 : Dynamic (In PC Mode : High)
Data 2 : Standard (In PC Mode : Middle)
Data 3 : Movie (In PC Mode : Low)
Data 4 : Mild
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data 0 : Custom
Data 1 : Dynamic
Data 2 : Standard
Data 3 : Movie
Data 4 : Mild

### 7. Brightness : b

▶ To adjust Brightness
* Transmission

{b}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

### 8. Contrast : k

▶ To adjust Contrast
* Transmission

{k}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

### 9. Colour : c

▶ To adjust Colour (Not available in PC Mode)
* Transmission

{c}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

### 10. Tint : t

▶ To adjust Tint (Not available in PC Mode)
* Transmission

{t}{ }{SET ID}{ }{Data}{Cr}

Data : Min : 00h~Max : 64h
* Ack

{SET ID}{:}{OK}{x}{Data}{x}

Data : Min : 00h~Max : 64h

# RS232C Communication Protocol

## 11. Sharpness : h

▶ To adjust Sharpness
* Transmission
  {h}{ }{SET ID}{ }{Data}{Cr}
  Data : Min : 00h~Max : 64h
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data : Min : 00h~Max : 64h

## 12. Information : f

▶ Information on/off
* Transmission
  {f}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : On
  Data 1 : Off
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : On
  Data 1 : Off

## 13. Pip On : o

▶ Pip on/off
* Transmission
  {o}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : On
  Data 1 : Off
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : On
  Data 1 : Off

## 14. Pip Source : u

▶ To Select Pip Source
* Transmission
  {u}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : TV
  Data 1 : Scart 1
  Data 2 : Scart 2
  Data 3 : Composite 1
  Data 4 : S-Video 1
  Data 5 : Composite 2
  Data 6 : S-Video 2
  Data 7 : Component 1
  Data 8 : Component 2
  Data 9 : DVI
  Data 10 : PC

* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : TV
  Data 1 : Scart 1
  Data 2 : Scart 2
  Data 3 : Composite 1
  Data 4 : S-Video 1
  Data 5 : Composite 2
  Data 6 : S-Video 2
  Data 7 : Component 1
  Data 8 : Component 2
  Data 9 : DVI
  Data 10 : PC

## 15. Pip Location : n

▶ To Select Pip Position
* Transmission
  {n}{ }{SET ID}{ }{Data}{Cr}
  Data 0 : Right Bottom
  Data 1 : Right Top
  Data 2 : Left Top
  Data 3 : Left Bottom
* Ack
  {SET ID}{:}{OK}{x}{Data}{x}
  Data 0 : Right Bottom
  Data 1 : Right Top
  Data 2 : Left Top
  Data 3 : Left Bottom

## RS232C Communication Protocol

### 16. Pip Sound Set : e

▶ To Select Pip Sound
* Transmission
{e}{ }{SET ID}{ }{Data}{Cr}
Data 0 : Main
Data 1 : Sub
* Ack
{SET ID}{:}{OK}{x}{Data}{x}
Data 0 : Main
Data 1 : Sub

### 17. Pip Mode : d

▶ To Select Pip Mode
* Transmission
{d}{ }{SET ID}{ }{Data}{Cr}
Data 0 : PIP
Data 1 : PBP1
Data 2 : PBP2
* Ack
{SET ID}{:}{OK}{x}{Data}{x}
Data 0 : PIP
Data 1 : PBP1
Data 2 : PBP2

### 18. Remote Control On : j

▶ To Select Remote Control on/off
* Transmission
{j}{ }{SET ID}{ }{Data}{Cr}
Data 0 : Pc Control
Data 1 : Remote Conroller On
* Ack
{SET ID}{:}{OK}{x}{Data}{x}
Data 0 : Pc Control
Data 1 : Remote Conroller On

### 19. Abnormal Status : q

▶ You Can Read LCD TV Status
* Read Only Mode
* Transmission
{q}{ }{SET ID}{ }{FF}{Cr}
* Ack
{SET ID}{:}{OK}{x}{Data}{x}
Data 0 : OK
Data 1 : Stanby
Data 2 : AC Downr

### 20. Sound Mode : y

▶ To Select Sound Mode
* Transmission
{s}{ }{SET ID}{ }{Data}{Cr}
Data 0 : Custom
Data 1 : Standard
Data 2 : Music
Data 3 : Movie
Data 4 : Speech
* Ack
{SET ID}{:}{OK}{x}{Data}{x}
Data 0 : Custom
Data 1 : Standard
Data 2 : Music
Data 3 : Movie
Data 4 : Speech

## Trouble shooting

- In case a problem occurs with your LCD TV, please take the following steps first.
- If you still have the problem, turn the power off and contact your dealer or an authorized service center.

● Screen related Matters

| Problem | Action |
|---|---|
| The screen does not appear. | Is the power plug pulled out? Insert the power plug. Turn the main power button on and press the power button of the remote controller. |
| The screen appears too slowly after the power is turned on. | This problem occurs for a brief time in the process of image elimination processing in order to hide temporary screen noise that occurs when the power is turned on. But if the screen does not come after 1 minute has passed, contact your dealer or an authorized service center. |
| Screen is too bright or too dark. | Perform brightness adjustment or Contrast adjustment. (Please refer to page 29) |
| Screen is too large or too small. | Adjust the screen size. (Please refer to page 34) |
| Stripes appear on the screen and it shakes. | Stop using wireless telephones, hair driers and electric drills. |
| Simultaneous Screen does not appear. | Check that LCD TV and external equipment are connected. Check the inputs of simultaneous screen by pressing sub-screen selection. |
| The screen does not move. | Press the STILL button. (Please refer to page 38) Check if the Pause button is pressed on external equipment. |
| Computer Input Screen is abnormal. | Perform manual fine adjustment (Please refer to page 21). |
| Automatic Turn On does not work. | Automatic Turn On function works only when turning the LCD TV off with the remote controller or Standby button. |
| The screen shows snow or black patterns and then reverts to a clear picture. | The problem only occurs with DVI input when an abnormal signal is issued during an authorization process for a High-bandwidth Digital Content Protection (HDCP) compatible device. While it may vary depending on the actual device, the screen reverts to normal within a short time (5-7 seconds). |
| The screen flickers in multi-screen mode (PIP/PBP). | The problem occurs when both main and sub screens are supplied with interlaced signals. Whilst an internal de-interlacer should remove any trembling that occurs with interlaced signal input, either of the screens can still tremble when both screens are input with interlaced signals, because there is only one de-interlacer available. |

● Sound related Matters

| Problem | Action |
|---|---|
| Screen appears, Voice is not heard | 1. Press the "Mute"button. (page 25)<br>2. Increase the sound by pressing volume adjustment button.<br>3. Check if voice terminal of external input is connected properly.<br>4. Check if speaker cables are connected properly.<br>5. If it is on PIP mode, convert audio of main screen and sub screen by pressing S.SELECT.<br>6. Select and check the other input.<br>   If the sound still does not work and the other channels are the same after you have done as the above, contact your dealer or an authorized service center.<br>7. Check if the headphone jack gets pluged in.<br>8. Check if the speaker on/off selection at "On" in sound mode. |
| Lots of noise (static) occurs. | When connecting a Set-Top-Box, check that it is on stereo broadcasting. If it is, the TV program may not be available or the reception may be bad. Check the audio source with another player. If that source is good, contact your dealer or an Authorized service center. |

## Trouble shooting Tips

● Others

| Problem | Action |
|---------|--------|
| Remote controller does not work. | 1. Check if main power is On.<br>2. Check that the batteries of the remote controller were loaded properly.<br>3. Check to see if any obstacle exists between the LCD TV and the remote controller and remove it, if any.<br>4. If the batteries have no power, replace them with two new batteries.<br>5.Please check out current mode of fnuction key. |
| LCD TV makes strange noise. | It is the noise when the mechanism expands or contracts from to changes to the environment due to factors such as humidity, temperature, etc. It is not a failure. |
| LCD TV indication lamp is On. | The red means the Stand-by power is ON. It will take a few seconds to turn off as the main power is off. |

• This LCD TV is for household use and registered as suitable on electromagnetic waves.
• Therefore, you can use it in every location as well as residential areas.
• For improvement of product's quality, program can be upgrade without costomer's agreemant.

## Supported Display Modes

● PC mode

| Resolution | Horizontal Frequency (KHz) | Vertical Frequency (Hz) |
|------------|---------------------------|-------------------------|
| 640 × 480 | 31.47 | 60 |
|  | 37.86 | 72 |
|  | 37.50 | 75 |
| 720 × 400 | 31.47 | 70 |
| 800 × 600 | 35.15 | 56 |
|  | 37.88 | 60 |
|  | 48.88 | 72 |
|  | 46.88 | 75 |
| 1024 × 768 | 48.36 | 60 |
|  | 56.48 | 70 |
|  | 60.02 | 75 |
| 1280 × 1024 | 64.0 | 60 |

● Considerations in Installation

• If any signal of unsupported resolution is input, the "Out of Range" message appears.

## Supported Display Modes

● Component Mode [Y, $C_b(P_b)$, $C_r(P_r)$]

| Resolution | Horizontal Frequency (KHz) | Vertical Frequency (Hz) | |
|---|---|---|---|
| 720 × 480 | 15.73 | 60.00 | SDTV, DVD 480i |
| 720 × 576 | 15.63 | 50.00 | SDTV, DVD 576i |
| 720 × 480 | 31.47 | 59.94 | SDTV, 480p |
| 720 × 576 | 31.25 | 50.00 | HDTV, 576p |
| 1280 × 720 | 37.50 | 50.00 | HDTV, 720p |
| 1280 × 720 | 45.00 | 60.00 | HDTV, 720p |
| 1920 × 1080 | 28.12 | 50.00 | HDTV, 1080i |
| 1920 × 1080 | 33.75 | 60.00 | HDTV, 1080i |

• If any signal of unsupported resolution is input, the "Out of Range" message appears.

● Specifications

| | |
|---|---|
| Aspect Ratio | 16 : 9 |
| Screen Size (H × V) | 885.168(H) × 497.664(V)mm |
| Resolution | 1366 × 768 |
| Pixel pitch (H × V) | 0.648(H) × 0.216(V)mm (RGB Vertical Script) |
| Displayable Colors | 16.7M |
| Brightness | 500cd/m²(center of screen) |
| Contrast | 1000:1 |
| Viewing Angle | 89° /89° /89° /89° |
| Input signal | PAL, SECAM, SD, HD, VGA~SXGA |
| Tuner | PAL, SECAM |
| PC Input | Analog RGB, DVI-D |
| AC Input | AC100-240V~, 50/60Hz, 2.8A(MAX) |
| Power Consumption | 240W (Typical) |

## Memo